

900 MHZ AND 2.4 GHZ
WIRELESS ADAPTERS



XBEE-PRO[®] DIGIMESH[®] ADAPTERS

Adapters utilize the DigiMesh peer-to-peer networking protocol to connect multiple types of devices over a self-healing, low-power mesh network

XBee-PRO DigiMesh adapters deliver wireless connectivity to electronic devices using the DigiMesh protocol. This innovative, peer-to-peer networking protocol offers users increased stability by forming self-healing, self-discovering mesh networks. DigiMesh features dense network operation and support for sleeping routers, extending the operational life of battery dependent networks.

XBee-PRO DigiMesh adapters are available in 2.4 GHz and 900 MHz variants. Interface options include RS-232, RS-485, USB, digital and analog interfaces.

XBee-PRO DigiMesh adapters are compatible with other products using the DigiMesh protocol, such as ConnectPort[®] X gateways, and XBee and XBee-PRO wireless modules. By using Digi Device CloudSM, users can securely access and manage devices in their DigiMesh network from anywhere in the world.

BENEFITS

- Simple topology to deploy and grow
- XBee-PRO platform provides extended range
- DigiMesh peer-to-peer networking protocol
 - Self-healing and discovery for network stability
 - Sleeping routers supported for long battery life
 - No master/coordinator required
- Compatible with other devices using the DigiMesh protocol, like ConnectPort X gateways, RF modules and more

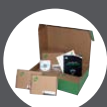
RELATED PRODUCTS



Gateways



Modules



Development Kits

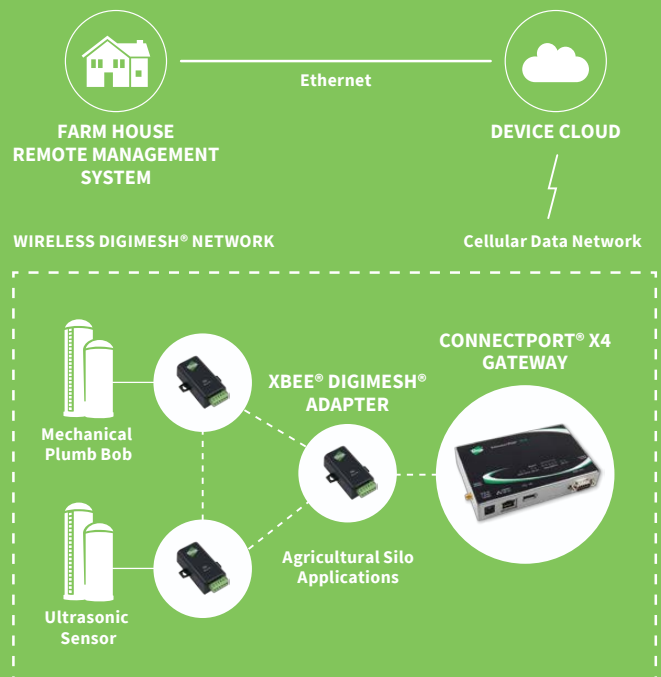


Modems



XBee-PRO[®] ZB Wall Router

APPLICATION EXAMPLE



SPECIFICATIONS

DigiMesh® 2.4

DigiMesh® 900

PERFORMANCE

DATA RATE	250 Kbps	156 Kbps
INDOOR/URBAN RANGE	300 ft (90 m) / 200 ft (60 m) Int'l variant	1.8 miles (3 km)
OUTDOOR/RF LINE-OF-SIGHT RANGE	1 mile (1.6 km) / 2500 ft (750 m) Int'l variant	6 miles (10 km)
TRANSMIT POWER	63 mW (+18 dBm) / 10 mW (+10 dBm) Int'l variant	50 mW (+17 dBm)
RECEIVER SENSITIVITY (1% PER)	-100 dBm	

FEATURES

CONFIGURATION METHOD	API or AT commands	
FREQUENCY BAND	2.4 GHz ISM	900 MHz ISM
INTERFERENCE IMMUNITY	DSSS (Direct Sequence Spread Spectrum)	FHSS (Frequency Hopping Spread Spectrum)
SERIAL DATA INTERFACE	RS-232 DB9M/DTE or RS-485 (6-position wire terminal block) switch selectable between RS-422 half-duplex, RS-422 full duplex and RS-485	
USB DATA INTERFACE	USB 2.0 full speed (with ESD protection); connects to host via captive 1-meter cable	
ANALOG INTERFACE & DIGITAL I/O	6-position wire terminal block; Analog: 0 - 10V, 4 - 20 mA, or +/- 2VDC differential; Digital IO: Digital input or sinking driver output	
ANTENNA TYPE	RPSMA (USB uses internal wire antenna)	
LEDS	Power: Glows green when external power is supplied (not active when battery powered to limit power drain) Associate: Blinks when unit is connected and associated on an RF network	
OPERATING TEMPERATURE	-40° C to +70° C (-40° F to +158° F)	
DIMENSIONS	RS-232, RS-485, Analog, Digital I/O models: 3.60 in x 1.90 in x 1.20 in (9.14 cm x 4.82 cm x 3.04 cm) USB models: 2.87 in x 1.80 in x 0.83 in (7.29 cm x 4.57 cm x 2.10 cm)	
WEIGHT	RS-232, RS-485, Analog, Digital I/O models: 2.29 oz (64.92 g); USB models: 1.60 oz (45.36 g)	

NETWORKING & SECURITY

ENCRYPTION	128-bit AES	
RELIABLE PACKET DELIVERY	Retries/Acknowledgements	
ADDRESSING OPTIONS	PAN ID, channel, 64-bit address	
CHANNELS	16	8

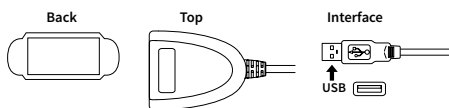
POWER REQUIREMENTS

POWER INPUT	3.7 - 6.0VDC	
POWER SUPPLY	120VAC/240VAC to 5VDC power supply, internal lithium battery pack or external 6-cell D battery holder (all sold separately)	
USB MODEL	Bus powered (+5V)	
TRANSMIT CURRENT	210 mA	
RECEIVE CURRENT	55 mA	80 mA

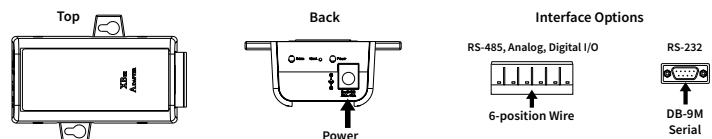
REGULATORY APPROVALS

EMISSIONS	FCC Part 15, EN55022:2006 Class B, ICES-003Iss.4, EN55024:1998+A1 (2001) + A2 (2003), AS/NZS CISPR 22:2006, VCCI V 3/2007.04
SAFETY	IEC/EN 60950-1 (2001), CB Certificate, UL/cUL 60950-1
ROHS	Yes

USB MODEL



RS-232, RS-485, ANALOG, DIGITAL I/O MODELS



PART NUMBERS	DESCRIPTION
XA-M14-CE1P-A	XBee-PRO DigiMesh 2.4, USB adapter
XA-M14-CE1P-W	XBee-PRO DigiMesh 2.4, USB adapter (International)
XA-M14-CS2P-A	XBee-PRO DigiMesh 2.4, RS-232 adapter (3-6V)
XA-M14-CS2P-W	XBee-PRO DigiMesh 2.4, RS-232 adapter (3-6V) (International)
XA-M14-CS3P-A	XBee-PRO DigiMesh 2.4, RS-485 adapter (3-6V)
XA-M14-CS3P-W	XBee-PRO DigiMesh 2.4, RS-485 adapter (3-6V) (International)
XA-M14-CS4P-A	XBee-PRO DigiMesh 2.4, digital IO adapter (3-6V)
XA-M14-CS4P-W	XBee-PRO DigiMesh 2.4, digital IO adapter (3-6V) (International)
XA-M14-CS5P-A	XBee-PRO DigiMesh 2.4, analog input adapter (3-6V)
XA-M14-CS5P-W	XBee-PRO DigiMesh 2.4, analog input adapter (3-6V) (International)